

## **Application Guide**

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LINING & WATERPROOFING TECHNOLOGIES

Waterproofing

# LAVIOSEAL HI-TEC (HT) INSTALLATION GUIDELINES

#### Preparation of the Installation area

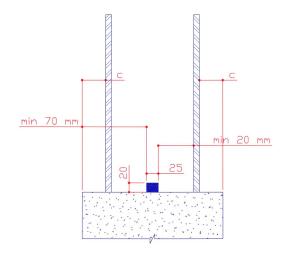
The following are the preliminary operations required to ensure that the LAVIOSEAL HT joint functions perfectly:

- the surfaces which are to be treated with LAVIOSEAL HT must be clean and any particles of extraneous material that could be deposited must be removed;
- even small amounts of stagnant water that have collected must be removed from the joint sealing area;
- all macroscopic unevenness in the concrete must be removed and care must be taken to level the surfaces in such a way as to ensure the best possible contact between the strip and the surfaces to be sealed (a necessary condition if optimum waterproofing of the joint is to be achieved).

#### Waterstop installation

During installation the following steps are foreseen:

- prepare a strip of LAVIOSEAL HT before applying it to the surface of the previously prepared cement;
- position the strip roughly in the centre
  of the section to be sealed, which
  must not be wider than 45 cm. For
  wider structures, a double strip of
  bentonite can be positioned at a
  distance of approximately 5 cm;
- for vertical installations, start from the bottom in order to prevent any risk of distortion or stretching;
- the water-stop must be covered with a concrete cast of 8 cm minimum in all directions;



- the bentonite strip must not be used to support reinforcements;
- the reinforcements must be positioned at a minimum distance of  $2\Phi$  (as  $\Phi$  is the diameter of the iron reinforcements closest to the joint) in such a way that the free re-expansion of the bentonite is not hindered;
- for horizontal applications, a minimum bending radius of 12-15 cm must be maintained at the bends:
- at 90° bends in horizontal applications, it is advisable to cut the strip and start again with a vertical joint;
- it must be remembered that the waterstop must adhere perfectly to the concrete without leaving any breaks through which micro-penetrations of the concrete cast could adversely affect the final sealing of the joint.



### Waterstop fixing

Rivet the strip to the surface as follows:

- for horizontal applications there must be 25-30 cm between the centers of two consecutive rivets;
- at bends in horizontal applications, the rivets must be positioned at the beginning and at the end of a short bending stretch (max. 25 cm). For long bending stretches it is advisable to increase the number of rivets in accordance with requirements;
- for vertical applications the number of rivets must be increased to a maximum distance of 20 cm between the centers of two consecutive rivets;
- at each end of the strip, a starting rivet must always be positioned at a distance of 2-3 cm from the free end;

- it is advisable to use wide-head rivets with a washer inserted between the rivet head and the surface of the strip, taking care that the washer does not penetrate the strip during the securing operations;
- when securing has been completed, a concrete cast must be laid no later than 24-36 hours afterwards. In adverse weather conditions and in hot climates, the time between securing the water-stop and casting the concrete must be reduced to a minimum:
- laying temperatures: air temperature from –5 °C to +55 °C.